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Pond Infusoria.[1] — The activity of the Bohemian fresh-water biological station is manifested by Švec's paper on the Infusoria of the Unterpočernitzer pond. Workers in fresh-water fauna will welcome the very full biological and systematic treatment of an hitherto much neglected field of investigation. Pelagic Infusoria are represented by but seven species, three of which are described as new. *Codonella lacustris* alone occurs throughout the year, being found under the ice in the winter and reaching a maximum in the spring. The lowering of the temperature of the pond during the summer by an influx of rain water is followed by a rapid increase in the number of this species. Littoral Infusoria abound, not only among the aquatic vegetation and the diatoms alongshore, but also in the surface scum which gathers in such regions. The greater part of the sixty-nine species recorded in the paper occur in this region. The bottom fauna contains but few individuals belonging to but six species. In all, ten new species are described. C. A. K.

Variation in Veneridæ.[2] — The result of work on 1000 specimens of a Western representative of the large Veneridæ from many localities is another illustration of the extreme variation, not only in color tint but in color scale and color pattern, which may exist in an otherwise very well demarcated form. Sixteen varieties based on color are described and arranged in six groups. These varieties are not traced to their relations with environment, though all forms, except those based on the number of rays, are said to be highly local. The varieties would appear to be discontinuous; *e.g.*, Mr. Stearns appears to indicate that the number of rays is either just about the typical twenty or "very many" more or "very many" less. It is interesting to note that the two valves vary independently of each other. In fact, it would seem from Mr. Stearns's description that one valve might be *Cytherea crassatelloides var. pauciradiata*, while the other was *C. crass. var. multiradiata.* With this extreme variation in color goes extreme stability of form and interior coloration. The only variety of form noted is in degree of ventricosity and elongation, clearly correlated with an exposed habitat calling for deeper burrowing and consequent elongation of siphons.

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[1] Švec, F. Beiträge zur Kenntniss der Infusorien Böhmens. I. Die ciliaten Infusorien des Unterpočernitzer Teiches, *Bull. Int. Acad. d. Sci. Bohême* (1897), pp. 1–19, Tab. I, II.

[2] Stearns, R. E. C. Notes on Cytherea (Tivela) crassatelloides Conrad, with Descriptions of Many Varieties, *Proc. U. S. Nat. Museum*, vol. xxi (1898), pp. 371–378, Pls. XXIII–XXV.

We think the main value of the work is its illustration of the worthlessness of exterior coloration in shells to the systematist, and the interest of this ornamentation problem as an independent question of physiology, or possibly of morphology.

F. N. BALCH.

Distribution and Variation. — In the *Procès Verbaux Soc. Roy. Malacol. de Belgique* meeting of February, 1898, is reported an interesting discussion on "L'Émigration considérée comme facteur de l'évolution et de filiation des espèces." It was *apropos* of a paper by M. Arnold Locard in the *Compt. Rend. l'Acad. Sci.*, No. 5, 1898, on the area of distribution of the molluscan fauna of the boreal Atlantic in the deeper waters to the south. Locard pointed out that recent explorations had shown that forms littoral or sublittoral in the boreal regions have spread southward, into ever-deepening waters, from an area approximately of common origin, down the European and African shores to the latitude of Guinea, in about 2000 fathoms, and down the American shores to the latitude of the Antilles, in about 800 fathoms. The area of distribution would thus have the form of a vast triangle of which the apex would rest in about 50 fathoms, somewhere north of Iceland, while the base connected the north-tropical shores of Africa and America, passing upward from east to west from a depth of 2000 fathoms to one of 800. M. Locard's idea, M. Van den Broek thought, was that migration occurs, speaking largely, in opposition to variation. That is, a northern species under pressure from a changing environment or from crowding might spread along the coast where bathymetric and other conditions would be little changed, but the temperature change would be great, or it might spread downward where the changes would be just the opposite. In either case it would follow the line of least resistance; *i.e.*, that in which the required variation would be least. Emigration would replace adaptation and prove a factor of stability.

From this idea M. Van den Broek differs. He points out that while deeper water was doubtless the line of least resistance in migration, and probably called for less variation than migration along the coast would have done (as is indicated, moreover, by the archaic facies of abyssal life), yet the *cause* of migration is uncertain. It may be to escape the competition of more competent rivals, or local enemies, or parasites, or it may be in the wake of a migrating food supply, and in such cases might not be along the line calling for least variation. In the case of the deep-water and arctic Mollusca it